



MLDS CENTER

Maryland Longitudinal
Data System

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Dual Enrollment in Maryland: Trends, Demographics, and Outcomes

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Outline

- Defining Dual Enrollment
- Research on Dual Enrollment
- Operationalizing Dual Enrollment Using Data from the MLDS
- Dual Enrollment Findings from the MLDS
- Future Research on Dual Enrollment

Defining Dual Enrollment

In Maryland, dual enrollment is defined broadly as:

A student who is dually enrolled in:

- (i) a secondary school in the State; and
- (ii) an institution of higher education in the State

(Education Article §18-14A-01, Annotated Code of Maryland).

Research on Dual Enrollment

- Research indicates that dual enrollment is associated with positive outcomes.
 - High School Outcomes: higher attendance, reduced drop-out, higher grade point average, higher likelihood of earning a high school diploma.
 - Postsecondary Outcomes: increased likelihood of enrolling in college, enrolling full time, and pursuing a Bachelor's degree.

(An, 2013; Bailey et al., 2002; Brown, 2000; Cellini, 2005; Hershey et al., 1998; Karp et al., 2007; Wang et al., 2015)



Differential Effects by Demographic Characteristics

- Effects may be larger for:
 - male students when compared to female students.
 - low-SES students when compared to higher-SES students.
 - racial and ethnic minority students when compared to White students.
 - lower-achieving students when compared to higher-achieving students.

(An, 2013; Hughes et al., 2012; Karp et al., 2007)

Research Questions

- What percentage of the Maryland 12th grade population is dually enrolled and how does this percentage change over time?
- What are the demographic characteristics of dually enrolled students and how do they compare to the Maryland population?
- What is the association between dual enrollment participation in Maryland and future college enrollment?



Operationalizing DE Using Cross-Agency Data from the MLDS

- **Overlap in Enrollment Dates:**

- Links data from MSDE, MHEC, and NSC.
- Identifies students with overlapping enrollment dates in a Maryland public high school and a Maryland postsecondary institution.
- Identifies students with ANY overlap AND enrollment in college for at least 30 days.
- Includes Fall and Spring semester enrollments.



Dual Enrollment in Maryland

	Total 12 th <i>N</i>	Dually Enrolled <i>N (%)</i>	Range in % Dually Enrolled*
2011-2012	64,824	4,585 (7)	2-20
2012-2013	63,636	4,732 (7)	2-24
2013-2014	62,732	5,453 (9)	3-28

Notes. *Range across school districts. Out-of-state postsecondary enrollments are excluded.



Who is Dually Enrolled in Maryland?

	2011-2012		2012-2013		2013-2014	
	DE %	12 th %	DE %	12 th %	DE %	12 th %
Female	59	50	59	50	59	50
FARMs	15	32	16	33	19	33

Notes. DE = Dually enrolled. FARMs = Free and Reduced Price Meals. Out-of-state postsecondary enrollments are included. Numbers are percentages representing proportion of the Maryland population.



Who is DE in Maryland (2)?

	2011-2012		2012-2013		2013-2014	
	DE %	12 th %	DE %	12 th %	DE %	12 th %
Race						
White	70	48	70	49	69	49
Black	20	38	19	36	20	36
Other	10	14	11	15	11	15
Hispanic	4	9	5	9	5	10

Notes. DE = Dually enrolled. Numbers are percentages representing proportion of the Maryland population. May not add to 100 due to rounding.



Summary of Findings (Trends and Demographics)

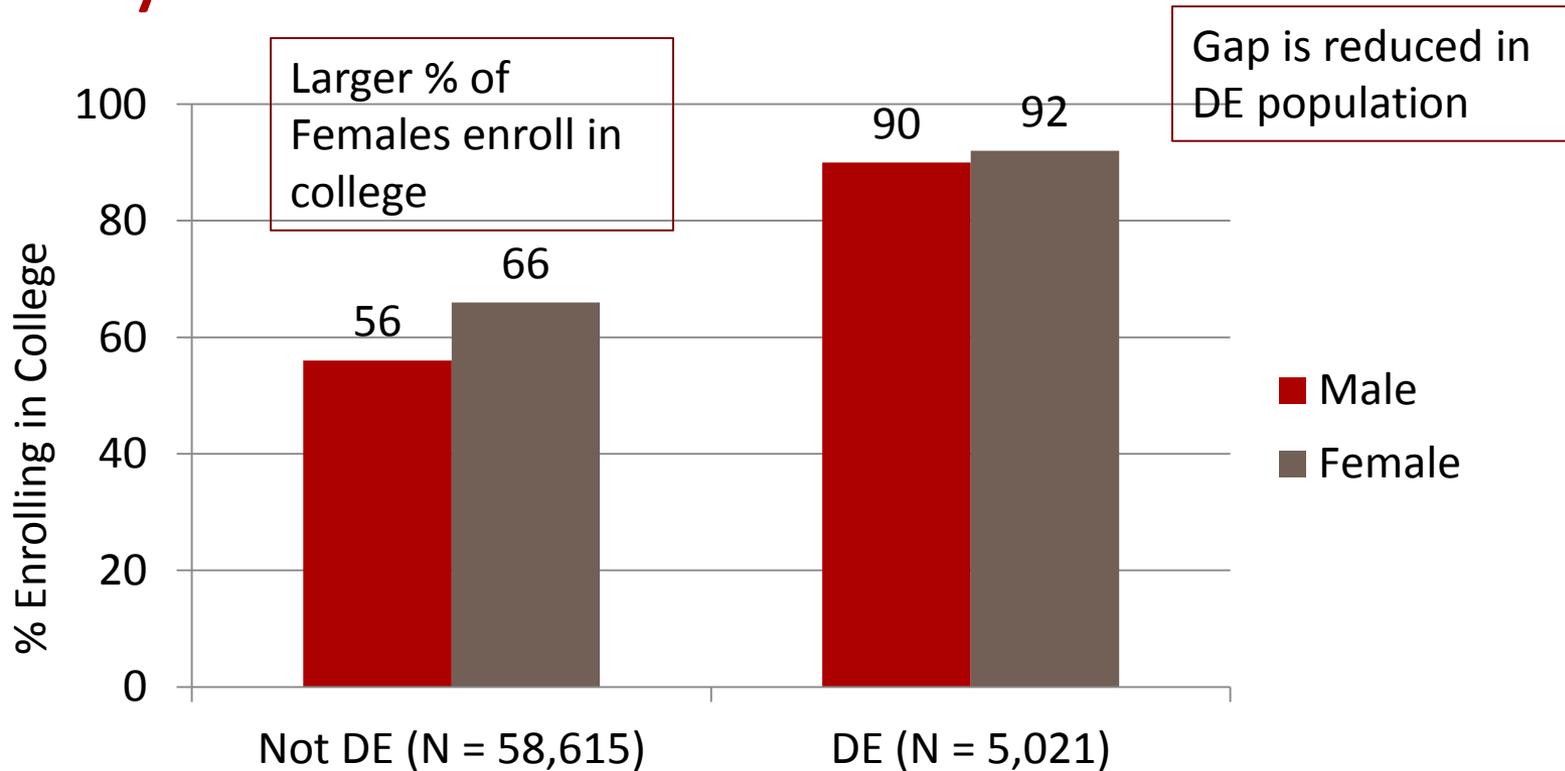
- Number and percentage of the population of Maryland students DE has increased.
- Students eligible for FARMs and minority students are under-represented in the DE population.
- Female students are over-represented.
- Proportion of DE students eligible for FARMs is increasing.

Postsecondary Education Outcomes of Dually Enrolled Students

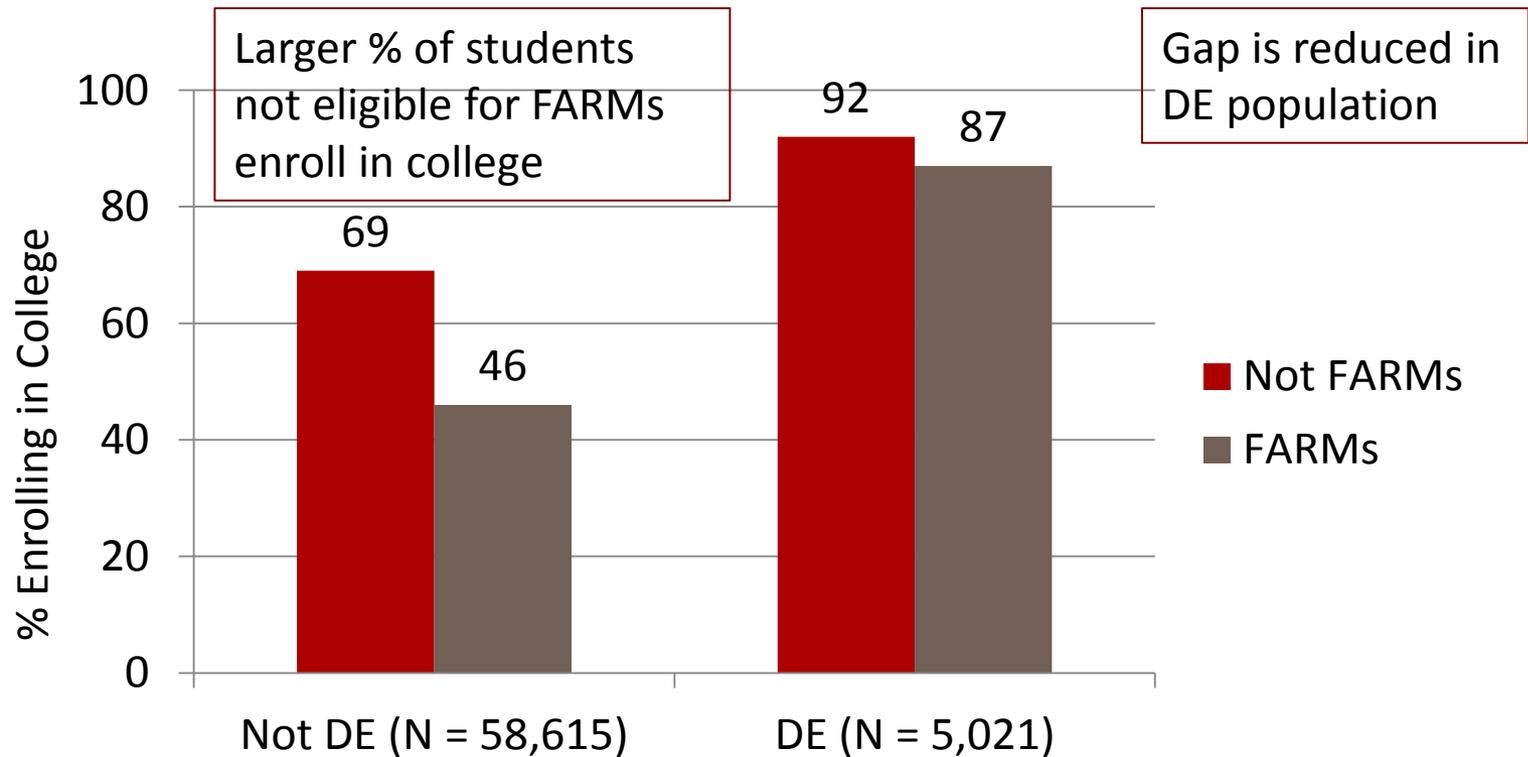
	12 th (2012-2013)	DE 12 th (2012-2013)
Total <i>N</i>	63,636	5,021
Enrolled in Postsecondary Education within One Year (2013-2014)		
<i>N</i> (%)	40,091 (63)	4,569 (91)
<i>Notes.</i> Out-of-state postsecondary enrollments are included.		

Interpret with caution.

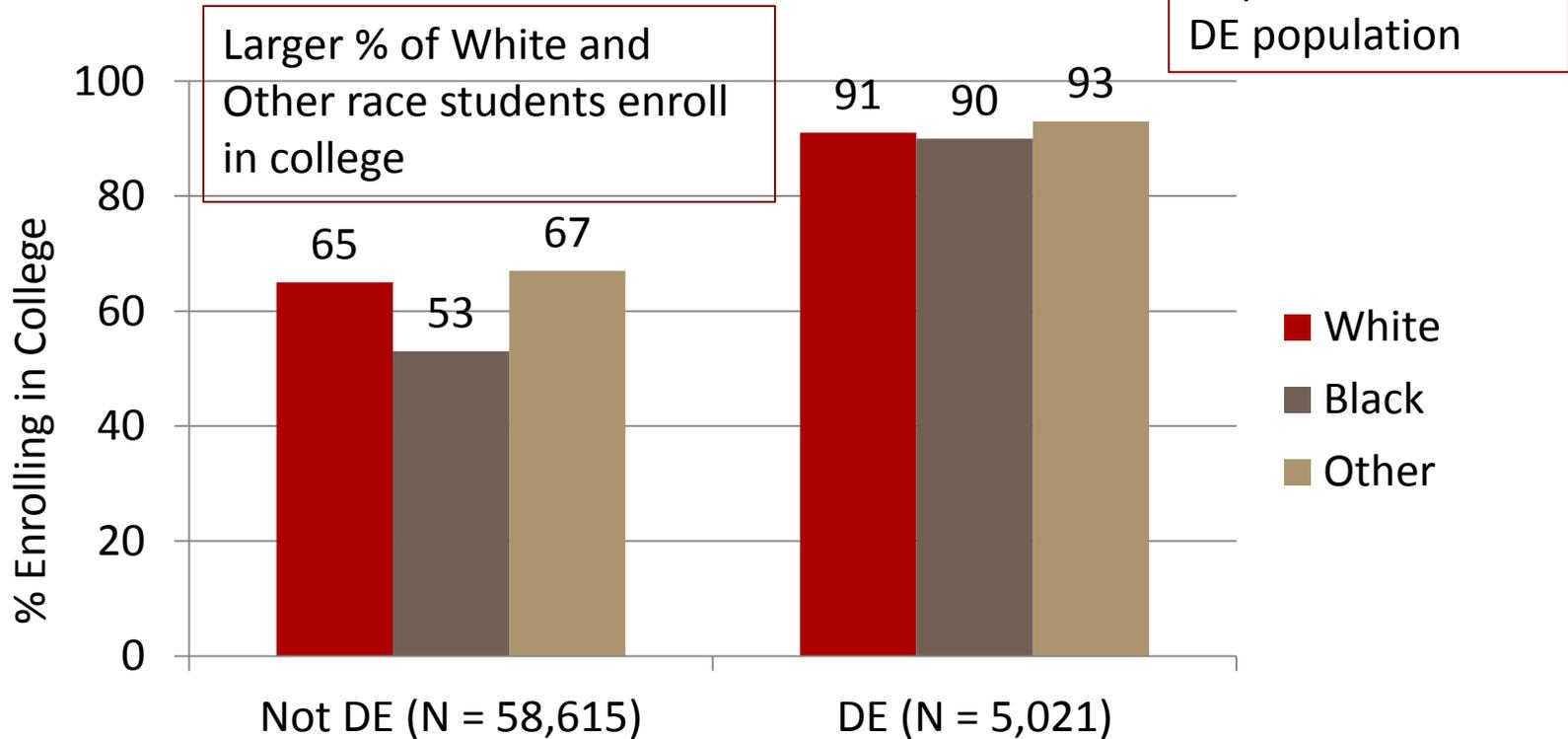
Postsecondary Education Outcomes by DE Status and Gender



Postsecondary Education Outcomes by DE Status and FARMs



Postsecondary Education Outcomes by DE Status and Race



Summary of Findings (Postsecondary Education Outcomes)

- Overall, a greater proportion of DE students enroll in postsecondary education within one year in comparison to the population of the state.
- When comparing college enrollment outcomes by DE status and demographic characteristics, there is a smaller gap in college enrollment for DE by:
 - Gender
 - FARMs
 - Race
- Interpret with caution (differences in populations)

What is the association between DE and the likelihood of enrolling in college (controlling for demographics)?

- Multi-level model (2 levels)
 - Level 1 = individual student ($N = 63,636$)
 - Level 2 = high school ($N = 269$)
- Binary event as outcome
 - 0 = no college enrollment
 - 1 = college enrollment

What is the association between DE and the likelihood of enrolling in college (controlling for demographics)?

Effect	Estimate	OR
<i>Level 1 (Student-level model; N = 63,636)</i>		
Female	0.53	1.69
Black	-0.03	0.97
Other	0.25	1.28
Hispanic	-0.56	0.57
FARMs	-0.60	0.55
DE	1.89	6.64

Notes. OR = odds ratio. All students are 12th grade students in 2012-2013. College enrollment is examined in 2013-2014. *N* schools = 269. -2LL = 72193.26.

Summary of Findings (Predicting the Likelihood of College Enrollment)

- After controlling for the other demographic variables in the model and student dual enrollment status:
 - Female students are more likely to enroll in college, when compared to male students.
 - Black students are only very slightly less likely to enroll in college, when compared to white students.
 - Other race students are slightly more likely to enroll in college, when compared to White students.
 - Hispanic students are less likely to enroll in college than non-Hispanic students.
 - Students eligible for FARMs are less likely to enroll in college than students not eligible for FARMs.



Summary of Findings (Predicting the Likelihood of College Enrollment)

- After controlling for demographic characteristics, the odds for DE students to enroll in college are almost 7x higher than the odds for students not DE.
- This is a large effect size.
- Interpret with caution (third variables may contribute to the association).
 - For example, the model does not include academic achievement.

Future Research

- Examine associations between dual enrollment and high school predictors (e.g., academic achievement and attendance).
- Examine association between dual enrollment and college enrollment after controlling for academic achievement.
- Examine Level 2 (school-level) predictors of dual enrollment and college enrollment.
- With additional years of longitudinal data, longer term outcomes associated with DE can be examined:
 - Degree attainment
 - Time to degree
 - Workforce outcomes

Acknowledgements

- MLDSC Staff
- MLDSC Research and Policy Advisory Board
- MLDSC Governing Board

Questions and Discussion

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